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(Reaffirmed 2002)

Indian Standard

BASIC TESTING PROCEDURES AND MEASURING METHODS FOR ELECTROMECHANICAL COMPONENTS FOR ELECTRONIC EQUIPMENT

PART 2 GENERAL EXAMINATION, ELECTRICAL CONTINUITY AND CONTACT RESISTANCE TESTS, INSULATION TESTS AND VOLTAGE STRESS TESTS

Section 3 Insulation Tests

1. Scope — This standard (Part 2/Sec 3) covers test method to assess the insulation resistance of electromechanical components.

2. Test 3a : Insulation Resistance

2.1 *Object* — The object of this test is to detail a standard method to assess the insulation resistance of electromechanical components.

2.2 *Mounting of Specimen* — The specimen shall be mounted in accordance with the detail specification.

2.3 *General Requirements*

2.3.1 The insulation resistance shall be measured with a closed-circuit dc voltage of 10±1V, 100±15V or 500±50V, using the method A, B or C specified in the detail specification.

2.3.2 The insulation resistance shall be measured only when a stable reading is obtained. If a stable condition is not reached, the insulation resistance reading shall be recorded within 60±5s after the application of the voltage.

Note — If stability was not attained at the time the reading was recorded, this fact should be noted in the test report.

2.3.3 The insulation resistance shall be not less than that specified in the detail specification.

2.4 *Measuring Methods*

2.4.1 *Method — A* The insulation resistance shall be measured on specimens using the specified test voltage applied in turn between each termination being tested and all others connected together and to the housing and/or the mounting plate.

2.4.2 *Method B* — Alternate terminations shall be connected together to form two groups.

The insulation resistance shall be measured on specimens using the specified test voltage applied between:

a) the first group of terminations and the second group connected to the housing and/or the mounting plate, and

b) the second group of terminations and the first group connected to the housing and/or the mounting plate.

Note — In the case of terminations arranged in two or more rows, it will be necessary to form a second arrangement of two groups in order to measure the insulation resistance of each pair of adjacent terminations.

2.4.3 *Method C* — The insulation resistance shall be measured between two adjacent terminations having a minimum spacing using the specified test voltage.

2.5 *Details to be Specified* — When this test is required by the detail specifications, the following details shall be specified:

a) Measuring method to be used (*see* **2.4**);

b) Value of the test voltage;

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Electromechanical Components for Electronic Equipment Sectional Committee, LTDC 7 [Ref : Doc : LTDC 7 (1223)]

c) Minimum value of the insulation resistance;
d) Contacts to be tested;
e) Temperature;
f) Operating conditions, for example, mated or unmated, etc; and
g) Any deviation from the standard test method and/or conditions.

EXPLANATORY NOTE

This standard (Part 2/Sec 3) is based, without any technical change on IEC Publication 512-2 (1985) 'Electromechanical components for electronic equipment; Basic testing procedures and measuring methods Part 2 General examination, electrical continuity and contact resistance tests, insulation tests and voltage stress test', issued by the International Electrotechnical Commission (IEC).

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